Impact of distance learning during COVID-19 on the anxiety of college students of Almaarefa University

Khaldoun I. Marwa¹, Hanadi Abdullah AlKthiri²*, Hassan Idriss Shicker³, Banan Yakoub Neyaz², Amkalthom Hussian Almohammed Ali², Hakimah Abdulrahman Albalawi², Sarah Hassan Alhilal²

ABSTRACT

Background: On 8 March, 2020, the Saudi Ministry of Education announced the closure of schools and universities around the Kingdom to control the spread of the coronavirus disease 2019 (COVID-19) as preventive and precautionary measures. On 18 March, 2020, Almaarefa University started the distance learning method for all students, including clinical medical students. This study aimed to assess the anxiety of college students with regard to the distance learning method in Almaarefa University during the COVID-19 pandemic.

Methods: This study is a descriptive cross-sectional study. We distributed a closed-ended questionnaire to 149 students of Almaarefa University. The assessment of anxiety was carried out using the Generalized Anxiety Disorder 7-item (GAD-7) Scale.

Results: One hundred and forty-nine students responded to an online questionnaire. The anxiety level, using GAD-7 Scale, was found to be moderate in 36.2%, mild in 32.2%, severe in 22.8%, and normal in 8.7%. Clinical phase students had the highest level of anxiety than basic science students and interns. The adaptive coping strategies used by students during COVID-19 were watching shows and movies (70.7%), sports and exercise (49.3%), cooking (48%), drawing (21.3%), developing new skills (38%), and attending educational webinars (36%).

Conclusion: The anxiety levels of the 149 students of Almaarefa University were assessed via the GAD-7 Scale, which found that the highest level was the moderate level, followed by mild, severe, and normal levels. The adaptive coping strategies used by students during COVID-19 were mostly watching shows and movies, sports and exercise, and cooking. Future studies with a bigger sample size assessing the depression score are recommended.

Keywords: COVID-19, GAD-7, anxiety, colleges students.

ORIGINAL ARTICLE

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic began in Wuhan, China, and spread nationwide, and then around the globe between December 2019 and early 2020 [1]. To reduce the transmission and spread of the virus, social distancing, closure of public spaces, preventing gatherings, including the closure of schools, malls, offices, and religious gatherings, places of worship, and quarantines were implemented in several countries, including Saudi Arabia [1-5]. A recent study had conducted a nationwide large-scale survey of the psychological distress in the general population of China. They had 52,730 valid responses, which showed that female respondents had a significantly higher psychological distress than males, and people with higher education tended to have more distress. The study had several recommendations, including screening, and targeted intervention to reduce psychological distress

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and prevent further mental health problems [1]. Another study conducted on Changzhi Medical College, using the 7-item Generalized Anxiety Disorder (GAD-7) Scale, showed that living in urban areas, family income stability, and living with parents were protective factors against anxiety. Additionally, risk factors for increasing the anxiety of college students were having relatives or acquaintances infected with COVID-19. Results of the correlation analysis indicated that economic status and delays in academic activities were positively associated with anxiety symptoms. The study suggested monitoring the mental health of college students during the pandemic [2]. Another study conducted on 509 college students in China aimed to explore the cognition, psychological state, anxiety and depression levels of college students during the COVID-19 pandemic has concluded that the anxiety and depression levels of college students have increased significantly and has recommended to carry out necessary psychological intervention on college students [6]. This cross-sectional study aimed to assess the anxiety of the distance learning method of college students in Almarea University during the COVID-19 pandemic.

Materials and Methods

A cross-sectional design was conducted among students of Almarea University who were attending Almarea University in the second semester of the year 2020. It included all students and interns from all colleges and both genders.

We included a random sampling of 149 responders of Almarea University students.

Data collection was based on a self-administered online survey questionnaire. The questionnaire measured demographic information such as college, gender, phase of education, risk, protective factors of anxiety, and GAD-7. The GAD-7 Scale was used to screen the GAD in the primary care setting. There were seven items included: (1) feeling nervous, anxious, or on edge; (2) being able to stop or control worrying; (3) worrying too much about different things; (4) trouble relaxing; (5) being restless; (6) becoming easily annoyed or irritable; and (7) feeling afraid as if something awful might happen [7].

The findings were analyzed by using Statistical Package for the Social Sciences (SPSS) software version 22.0 for Microsoft windows. The numbers and percentages were calculated. A $p$-value < 0.05 was considered to be significant and MS Excel was used to generate figures and charts in the form of graphs and tables.

Results

One hundred and forty-nine students responded to an online Google form questionnaire (female 80% and male 20%). The total number of college students from medicine was 97, applied sciences was 14, and pharmacy was 4. The total clinical phase was 75, basic science 47, and internship 27. The percentage of students with a moderate level of anxiety was 36.2%, mild was 32.2%, severe was 22.8%, and normal was 8.7%. Clinical phase students had the highest phase of anxiety than basic science phase and interns. A significant $p$-value was found in the following between worries about delayed exams and anxiety level ($p$-value = 0.000), worries about Grade Point Average (GPA) and anxiety level ($p$-value = 0.000), practice activities and anxiety level ($p$-value = 0.001), knowing someone who’s infected with COVID-19 and level of anxiety ($p$-value = 0.016), residency and level of anxiety ($p$-value = 0.032), college and level of anxiety ($p$-value = 0.033).

Discussion

The level of anxiety among Almarea University students using GAD-7 Scale was moderate in 36.2%, mild in 32.2%, severe in 22.8%, and normal in 8.7%. The adaptive coping strategies used by students during COVID-19 were mostly watching shows and movies, sports and exercise, cooking, developing new skills, attending educational webinars, reading, drawing, yoga, take medications, handicrafts, and volunteering, respectively.

The limitations of this study are insufficient sample size for statistical measurement, lack of previous research studies on the topic, and limited access to college student’s emails to send the questionnaire to individuals instead of sharing the questioners through Whatsapp groups.

Using a valid scale for anxiety was the strength of this study; the GAD-7 Scale was used to determine the anxiety level of Almarea University’s students. It is a concurrent valid and reliable score and it is used in two other studies similar to this study; some other studies have used different scales like Impact of Event Scale 6, which is a measure of post-traumatic stress disorder, Depression Anxiety Stress Scale, and others did not use any specific scale [2,8,9-12].

All the other studies have used a sufficient sample size to assess the anxiety level with other psychiatric disorders during the COVID-19 pandemic unlike this study; the insufficient sample size was due to the limited access to students rather than depending on sharing Google form link on Whatsapp groups [2,9-11].

This study’s result on anxiety level is different from other studies which used the same GAD-7 Scale; a study on 476 university students found mild (38.9%), moderate (24.8%), and minimal and mild (18%) levels [2,9]; another study on 7,143 participants found normal (75%), mild (21%), moderate (3%), and severe (1%) levels [9]. The variation in anxiety level is most likely due to the limited sample size.

Stress factors relating to the anxiety level have been found to be relatives infected with COVID-19, economic effects, effects on daily life, delays in academic activities, and sedentary lifestyle. Some factors are shown to be stress and protective factors, like living in urban areas.
and living with families [2,9]. Protective factors against anxiety were found to be living in urban areas, family income stability, and living with parents [2]. This study found various adaptive coping strategies that students are practicing during the COVID-19 pandemic and the most common were watching shows and movies, sports and exercise, and cooking. Future studies with a bigger sample size assessing the depression score are recommended.

**Recommendations**

This study’s findings can be used to construct psychological interventions directed toward university students, more specifically senior students, and to implement more public mental health strategies.

**Conclusion**

The anxiety levels of the 149 students of Almaarefa University were assessed via the GAD-7 Scale. We found the highest level is the moderate level, followed by mild, severe, and normal levels. The adaptive coping strategies used by students during COVID-19 were mostly watching shows and movies, sports and exercise, and cooking. Future studies with a bigger sample size assessing the depression score are recommended.

**List of Abbreviations**

GAD-7    | Generalized Anxiety Disorder 7-item Scale.
GPA      | Grade Point Average.
MS       | Microsoft Word.
SPSS     | Statistical Package for the Social Sciences software.

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None.

**Conflict of interest**

The authors declare that there is no conflict of interest regarding the publication of this article.

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**Consent for publication**

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**Ethical approval**

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